What is claimed is:

1. A communication system for efficiently transmitting information signals that were formatted in variable sized packets of more than a minimum size by using time division transmission of packet segments and allocating available bandwidth on demand, said system comprising:

a satellite/wireless network;

at least two sites, each comprising a plurality of terminals operative to transmit and receive signals via said satellite/wireless network and a local area network for interconnecting said terminals at a common site, each said terminals comprising:

(a) a modem for transmitting signals from a terminal on predetermined channels having a predetermined bandwidth;

(b) means for time dividing data signals input to said terminal from an external location and for assembling said time divided data signals as bursts within repeated frames, each frame having a unique frame header;

(c) means for dividing information signals arranged in variable sized packets into a plurality of segments;

(d) means for combining each segment in said plurality of segments with a unique segment and reassembly header to form a SAR segment;

(e) means for combining said SAR segments representing a single packet with a unique frame header to form a SAR frame; and

(f) means for selectively appending a terminal ID header to each said SAR frame for transmission in a burst from a modem.

2. The communication system as set forth in claim 1 wherein each terminal further comprises:

(g) means for detecting said SAR frame and for dividing said SAR frame into SAR segments;

(h) means for rearranging the segments in said SAR segments on the basis of said SAR header; and

(i) means for reassembling said packets on the basis of said rearranged segments.

3. The communication system as set forth in claim 2 further comprising means for receiving a SAR frame on the basis of said terminal ID information.

4. The communication system as set forth in claim 2 wherein said SAR frame comprises information defining the total length of said plurality of SAR Segments representing a single packet.

5. The communication system as set forth in claim 2 wherein said SAR segment comprises at least a signal identifying the packet sequence number for said segment.

6. The communication system as set forth in claim 2 wherein said SAR segment comprises at least a signal identifying a SAR id of such header.

7. The communication system as set forth in claim 2 wherein said SAR segment comprises at least a signal indicating whether a given segment is first or last among said plurality of segments defining a variable size packet.

8. The communication system as set forth in claim 2 wherein said SAR segment comprises at least a signal identifying at least one receiving modem for said packet.

9. The communication system as set forth in claim 2 wherein said terminal ID header comprises at least one of control group, site and unit information.

10. The communication system as set forth in claim 2 wherein said SAR header comprises one byte having identification information about a sending terminal and a receiving terminal.

11. The communication system as set forth in claim 10 wherein said SAR segment is for point to point bursts between sites having only one terminal each.

12. The communication system as set forth in claim 1 further comprising means for detecting the needed bandwidth for transmitting information signals and for allocating segments of a single packet to respective ones of multiple modems.

13. The communication system as set forth in claim 2 further comprising a central network controller for assigning bandwidth among plural modems on a per packet basis.

14. The communication system as set forth in claim 2 further comprising a controller distributed among plural modems for assigning bandwidth among plural modes on a per packet basis.

15. The communication system as set forth in claim 2 further comprising means for filling a SAR segment with fill data when said packet does not have sufficient data to completely fill a segment.

16. The communication system as set forth in claim 2 wherein said SAR segment has a uniform size data content.

17. The communication system as set forth in claim 16 wherein said size is identical to the size of an ATM cell.

18. The method of transmitting information arranged in packets from one location to a second location via a wireless/satellite network, comprising:

(a) examining each packet to determine whether its size is equal to a minimum;

(b) if a minimum size, generating a first SAR header and applying said header to said packet to form a SAR segment;

(c) if greater than a minimum size, dividing said packet into a plurality of segments having a uniform size, generating a second SAR header that is unique for each segment and applying said header to a respective one of said segments to form SAR segments:

(d) forwarding said SAR segments to one or more modems for transmission to at least one terminal at said second location.

19. The method of transmitting information as set forth in claim 18 further comprising:

(e) sorting said SAR segments by at least one of carrier id, burst position in frame and channel in burst;

(f) sending said SAR segments to a predetermined modem;

(g) determining whether the source and destination ID for segments and bursts are identical: and

(h) on the basis of the identity of the unit, site and control group, generating burst and identity information for transmission to said second site.

20. A communication method as set forth in claim 19, wherein said packets comprise ATM cells.

21. A communication method as set forth in claim 19, wherein said packets comprise frame relay packets.

22. A communication method as set forth in claim 19, wherein said packets comprise at least one of ATM cells and frame relay packets.

23. A segmentation and reassembly cell comprising a segment of a packet and a header comprising at least a packet sequence number for uniquely identifying a packet to which said segment relates, a SAR id for uniquely identifying the segment among all segments derived from the packet, and a destination id for uniquely identifying the destination for the packet.

24. A segmentation and reassembly cell as set forth in claim 23 further comprising a first and last segment indicator.

25. A communication method for reassembling segments transmitted by a satellite/wireless network in a time divided manner by discrete bursts that identify the

terminals by at least one of unit, site and control group, comprising:

selecting a modem and receiving a burst at said selected modem on the basis of common addresses in said burst;

sorting segments within burst received by said modem to restore the original order of the segments prior to transmission;

resequencing said sorted segments in a queue at a selected one of a plurality of locations on the basis of a burst slot and key; and

combining said segments at each of said plurality of locations to reassemble a packet.

26. The method as set forth in claim 25 wherein said resequencing step comprises computing a burst slot and composing a key for arranging said segments into a queue.

27. The method as set forth in claim 25 wherein segments received in bursts are processed in the order received in the burst.